

**WHAT IS CLAIMED IS:**

- 1     1.     A laser processing machine comprising:  
2             a beam guiding chamber adapted for flushing with a flushing gas; and  
3             a pressure relief valve coupled to the beam guiding chamber for releasing the flushing  
4             gas from the beam guiding chamber.
- 1     2.     The laser processing machine of claim 1, wherein the pressure relief valve includes a  
2             valve chamber and wherein an inner chamber of the beam guiding chamber is connected  
3             to the valve chamber.
- 1     3.     The laser processing machine of claim 2, wherein the pressure relief valve further  
2             includes a movably disposed valve disk for opening and closing the valve chamber to an  
3             atmosphere outside the beam guiding chamber.
- 1     4.     The laser processing machine of claim 3, wherein the movably disposed valve disk is  
2             attached to a pin movably located within a chamber of the pressure relief valve.
- 1     5.     The laser processing machine of claim 1, wherein the beam guiding chamber is  
2             adapted for flushing with a flushing gas at an overpressure compared to an atmosphere  
3             surrounding the beam guiding chamber.
- 1     6.     The laser processing machine of claim 5, wherein the pressure relief valve is adapted  
2             to be opened passively when the overpressure within the beam guiding chamber exceeds  
3             a critical overpressure.
- 1     7.     A method of flushing a beam guiding chamber of a laser processing machine, the  
2             method comprising:  
3             flushing the beam guiding chamber with a flushing gas; and  
4             releasing a portion of the flushing gas from the beam guiding chamber through a  
5             pressure relief valve.

1        8.        The method of claim 7, further comprising flushing the beam guiding chamber with a  
2        flushing gas having an overpressure compared to an atmosphere surrounding the beam  
3        guiding chamber.

1        9.        The method of claim 8, wherein the flushing gas is passively released through the  
2        pressure relief valve due to the overpressure of the gas acting on the valve to open the  
3        valve when the overpressure exceeds a predetermined overpressure.